

**WHAT IS CLAIMED:**

1. A thermal transfer ribbon comprising a substrate with a thermal transfer layer positioned thereon and a reflective sensor marker positioned on an end of said thermal transfer ribbon, wherein the reflective sensor marker permits the detection of the end of said thermal transfer ribbon by a sensor within a thermal transfer printer and wherein said sensor stops the thermal transfer printer from printing once a predetermined amount of light reflected from said thermal transfer ribbon is detected, said reflective sensor marker comprising a single light reflecting surface having a dimension along the length of the thermal transfer ribbon of at least 0.5 inch and less than ten inches.
2. A thermal transfer ribbon as in claim 1 wherein the single light reflecting surface is equal in width to the ribbon width and has a dimension along the length of the thermal transfer ribbon of less than 5 inches.
3. A thermal transfer ribbon as in claim 1 wherein the single light-reflecting surface has an area from  $W$  to  $10W$  square inches, wherein  $W$  is the width of said thermal transfer ribbon in inches.
4. A thermal transfer ribbon as in claim 1 wherein the reflective sensor marker is equal in width to the thermal transfer ribbon and has a dimension along the length of the ribbon of about 1 inch to about 2 inches, and the surface area of the reflective sensor marker is from about  $W$  to  $2W$  square inches wherein  $W$  is the width of said thermal transfer ribbon in inches.
5. A thermal transfer ribbon as in claim 1 wherein the reflective sensor marker comprises a reflective material taped either to the thermal transfer layer of

the thermal transfer ribbon or to the side of the thermal transfer ribbon opposite the thermal transfer layer.

6. A thermal transfer ribbon as in claim 1 which additionally comprises a trailer which is attached to an end of said substrate for the thermal transfer ribbon, wherein the reflective sensor marker is positioned on said trailer.

7. A thermal transfer ribbon as in claim 6 wherein the trailer is transparent and is either adhered to the substrate of the thermal transfer ribbon or is a continuation of a transparent substrate of the functional portion of the thermal transfer ribbon without a thermal transfer layer positioned thereon.

8. A thermal transfer ribbon as in claim 7 wherein the reflective sensor marker comprises a reflective material taped to the trailer.

9. A thermal transfer ribbon as in claim 8 wherein the reflective sensor marker provides a single reflective surface equal in width to the thermal transfer ribbon width and has a dimension along the length of the thermal transfer ribbon of at least 0.75 inch.

10. A thermal transfer ribbon as in claim 9 wherein the single light-reflecting surface has an area from  $W$  square inches to  $10W$  square inches, wherein  $W$  is the width of the thermal transfer ribbon in inches.

11. A thermal transfer ribbon as in claim 7 wherein the trailer is sufficiently transparent to provide a transparent sensor marker that permits the detection of the end of said thermal transfer ribbon by a sensor within a thermal transfer printer, wherein said sensor stops the thermal transfer printer from printing once a predetermined amount of light transmitted through the thermal transfer ribbon is

detected, said trailer having a width equal to that of said thermal transfer ribbon and a length of at least 5 to 30 inches.

12. A thermal transfer ribbon comprising a functional portion which comprises a substrate and a thermal transfer layer positioned thereon and both a reflective sensor marker and a transparent sensor marker, each positioned on the same end of said thermal transfer ribbon,

wherein said reflective sensor marker permits the detection of the end of said thermal transfer ribbon by a sensor within a thermal transfer printer which stops the thermal transfer printer from printing once a predetermined amount of light reflected from the thermal transfer ribbon is detected, and

wherein said transparent sensor marker permits the detection of the end of said thermal transfer ribbon by a sensor within a thermal transfer printer which stops the thermal transfer printer from printing once a predetermined amount of light transmitted through said thermal transfer ribbon is detected.

13. A thermal transfer ribbon as in claim 12 wherein the transparent sensor marker is a transparent trailer attached to the functional portion of said thermal transfer ribbon, and wherein the reflective sensor marker is positioned on said transparent trailer.

14. A thermal transfer ribbon as in claim 13 wherein the transparent trailer is either adhered to the substrate of the thermal transfer ribbon or is a continuation of a substrate of the functional portion of the thermal transfer ribbon without a thermal transfer layer positioned thereon.

15. A thermal transfer ribbon as in claim 14 wherein the reflective sensor marker comprises a reflective material taped to the trailer and the transparent trailer is of a length from 5 - 20 inches.

16. A thermal transfer ribbon as in claim 15 wherein the reflective sensor marker provides a single light reflecting surface equal in width to the width of the thermal transfer ribbon and has a dimension along the length of the thermal transfer ribbon of at least 0.5 inch and less than ten inches.

17. A thermal transfer ribbon as in claim 16 wherein said single light reflective surface has an area from  $1W$  to  $10W$ , wherein  $W$  is the width of the thermal transfer ribbon in inches.